

Evidence that low self-worth could be linked to anger and aggression in children with ASD

Philip Gerard

University of Cambridge, UK
philgerard1234@yahoo.co.uk

Autism Spectrum Disorder (ASD) is a condition defined by symptoms and behaviours which affect social and emotional interaction, including poor anger control and aggression, creating great difficulties for the families of those children and adults with ASD. A common trait within ASD is the need for “rules” to be followed. The proposal upon which this literature review is based is that these rules are a form of social inclusion, even if that means a society of one, and adherence to them underpins the ASD person’s self-worth. This literature review considers the evidence in current research for a link between self-worth and anger/aggression in the hope that a method can be developed to improve self-worth and so reduce the incidence of anger responses in the ASD population. The review first considers any links between low self-worth (self-esteem) and aggression in the neurotypical (NT) population. This is a controversial subject with contradictory results: Baumeister, Bushman and Campbell (2000) dismiss any link; Ostrowsky (2010) states there is evidence for and against a link, then Eromo (2017) explains the ambiguities through differentiating self-esteem into eight sub-categories which validates a negative correlation between true high self-esteem and aggression. In the second theme, the value of self-worth is considered in terms of mental well-being. High self-worth scores are shown to correlate with low anxiety, and self-esteem contingent on academic success is also shown to correlate with stress and depression. The final theme details the prevalence of anger/aggression in the ASD population and the value of emotion regulation (ER) techniques. In conclusion, there is sufficient evidence of the link between low self-worth and anger/aggression in the ASD and NT population and a programme is proposed to measure the impact of improving self-worth in a small ASD population with the intention of a more widespread therapeutic programme.

Keywords: autism, self-worth, anger, aggression, self-esteem.

Introduction

This is a scoping literature review exploring the possible link between low self-worth and anger/aggression in children with Autistic Spectrum Disorder (ASD) or Asperger Syndrome (AS). The intention is that it will prove the relevance of devising a therapeutic programme to improve self-worth in a small ASD/AS population with the expectation that there will be a resultant measured reduction in the incidence of anger and aggression levels.

For the purposes of this study, my definitions of ASD and AS come from Professor Baron-Cohen, leading researcher in the field of autism. ASD children typically demonstrate: “difficulties in social development, and in the development of communication, alongside unusually strong, narrow interests and repetitive behaviour...a diagnosis of Asperger’s syndrome requires that the child spoke on time and has average IQ or above.” (Baron-Cohen, 2008, p.112). In this review, as per DSM-5 (American Psychological Association [APA], online, 2018), I will include autism and Asperger syndrome under the banner of ASD. I will be defining anger as per the APA: “an emotion characterized by antagonism toward someone or something you feel has deliberately done you wrong.” (APA, online, 2017).

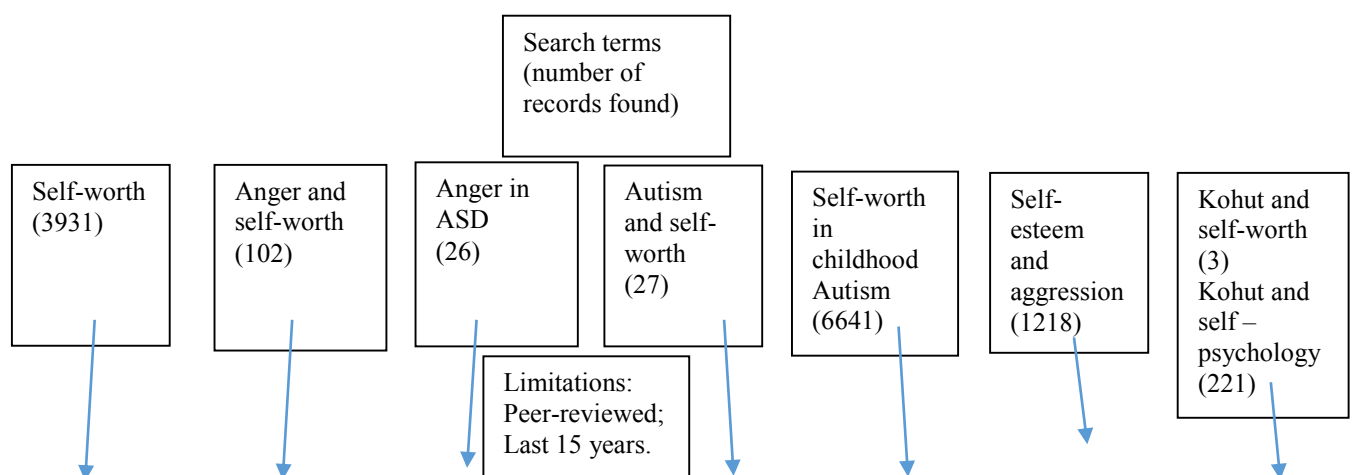
Eromo (2017) defines self-worth as the “emotional component” of self-esteem. ‘Self-Esteem’ was the predominant search result in my primary research using the term ‘self-worth’ (see below). It is a controversial subject; I have used Eromo, whose literature review overviewed all current theories on its psychological impact. My working definition of self-esteem is: “The appraisal of one’s own personal value, including both emotional components (self-worth) and cognitive components (self-efficacy).” (Eromo, xvii)

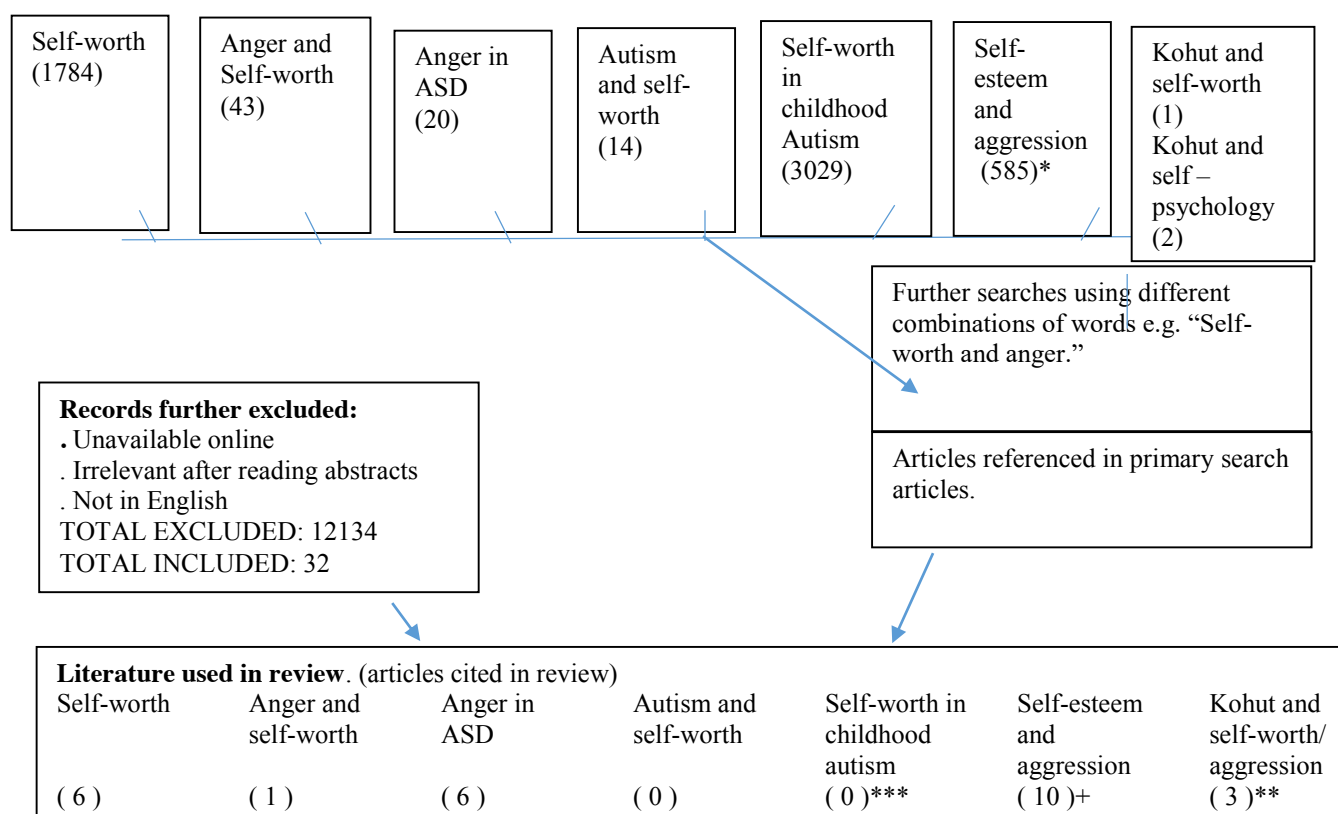
Anger control is a significant issue in children with ASD. Having observed that boys with ASD seem to follow strict ‘rules’ concerning their interaction with the world and their enthusiasms, it was clear that the boys expected other people to abide by them as well, in terms of the level of respect shown the boys and in encouraging their passions. When these rules are broken there can be a rapid anger response. I suggest that the rules are in fact a form of social inclusion, that struggling as ASD children do to understand social/emotional interaction, the boys’ self-worth is damaged when their rules are broken, which led to my hypothesis that improving their overall self-worth would help control their anger.

To test my hypothesis, following this review I will introduce a pilot study, which I have referred to above, in my school which has a high intake of boys with special education needs and disabilities (SEND). If it is successful and anger levels are seen to significantly reduce through the improving self-worth, I will conduct a larger study. The purpose is to move towards an intervention which could improve the quality of life of ASD children and those of their parents, commonly hindered by anger and aggression in this population.

I have illustrated my literature search process in Figure 1 below. Some of the search terms, such as “anger in ASD”, are self-explanatory; others, such as “anger and self-worth” and “self-esteem and aggression” were chosen to investigate contributory factors to anger and aggression in the neurotypical (NT) population which might have significance in the ASD population. (Neurotypical: “not suffering from or associated with an unusual brain condition, especially autism” (Univ. of Cambridge Dictionary, online, 2017). The antonym is neurodiverse.) A broad-based search was carried out initially because of quite limited results when the search was specific to ASD. Further articles were investigated as they were referenced in the primary search articles. There was a gap in the research specifically linking self-worth to anger/aggression so “self-esteem” became a focus as a synonymous search term and I was then able to differentiate to specify self-worth.

The literature search process follows:





* Baumeister, Bushman and Campbell (2000) was selected for inclusion to show contrasting views on self-esteem.

** Berzoff, Flanagan and Hertz is very useful on Kohut but was published in 1996.

*** The large volume of search results was narrowed by selecting 0-12-year-old children as subjects and the rather poor differentiator of “childhood development” as a sub-category but the results were not useful.

+ Leary, Schreindorfer and Haupt (1995) and Ornstein (1997) are used to demonstrate earlier study on self-esteem.

Figure 1. Literature Search Process

Databases used: PsycINFO, ERIC.

Table 1 notes the literature included in this review by search term.

Table 1

Literature used in this review, by search term

Self-worth

Fan, W., Chen, H. (2002). A study of self-worth and mental health. *Psychological Science* (China), 25(3)

Grills, A.E., Ollendick, T.H. (2002). Peer victimization, global self-worth, and anxiety in middle school children. *Journal of Clinical Child and Adolescent Psychology*, 31(1)

Leary, M.R. (2012). Sociometer Theory in Van Lange, P.A.M., Kruglanski, A.W., Higgins, E.T. (Eds.), *Handbook of theories of social psychology*, 2. 141-159. Thousand Oaks, CA. Sage Publications Ltd.

Leite, C., Kuiper, N.A. (2010). Positive and negative self-worth beliefs and evaluative standards. *Revista de Psihologie*, 56(3-4).

McCormick, W.H., Turner, L., Foster, J. (2015). A model of perceived parenting, authenticity, contingent self-worth and internalized aggression among college students. *Personality and Individual Differences*, 86

Robinson, J.C.: (2008). A process model of self-worth: Management of the self-evaluative and self-regulatory consequences to relational devaluation in daily life. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 69(6-B)

Zeigler-Hill, V., Besser, Avi. (2013). A glimpse behind the mask: Facets of narcissism and feelings of self-worth. *Journal of Personality Assessment*, 95(3).

Anger and self-worth.

Shanahan, S., Jones J., Thomas-Peter, B. (2011). Are you looking at me, or am I? Anger, aggression, shame and self-worth in violent individuals. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 29(2).

Anger in ASD

Ambler, P.G., Eidels, A. (2015). Anxiety and aggression in adolescents with autism spectrum disorders attending mainstream school. *Research in Autism Spectrum Disorders*.

Hayman, E.L. (2016). Reducing verbal and physical aggression in elementary students with Autism Spectrum Disorder using the Aggression Replacement Training Program. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 77(1-B)(E).

Quek, L.H., Sofronoff, K., Sheffield, J., White, A., Kelly, A. (2012). Co-occurring anger in young people with Asperger's syndrome. *Journal of Clinical Psychology*, 68(10).

Rieffe, C., Camodeca, M., Pouw, L.B.C., Lange, A.M.C., Stockmann, L. (2012). Don't anger me! Bullying, victimization, and emotion dysregulation in young adolescents with ASD. *European Journal of Developmental Psychology*. 9(3).

Samson, A.C., Wells, W.M.; Phillips, J.M., Hardan, A.Y., Gross, J.J. (2015). Emotion regulation in autism spectrum disorder: evidence from parent interviews and children's daily diaries. *Journal of Child Psychology and Psychiatry*, 56(8).

Scarpa, A., Reyes, N.M. (2011). Improving Emotion Regulation with CBT in Young Children with High Functioning Autism Spectrum Disorders: A Pilot Study. *Behavioural and Cognitive Psychotherapy*, 39.

Self-esteem and aggression

Baumeister R.F., Bushman, B.J., Campbell, W.K. (2000). Self-Esteem, Narcissism, and Aggression: Does Violence Result From Low Self-Esteem or From Threatened Egotism? *Current Directions in Psychological Science*. 9(1).

Besharat, M.A., Shahidi, S. (2010). Perfectionism, anger, and anger rumination. *International Journal of Psychology*, 45(6).

Bushman, B.J., Baumeister, R.F., Thomaes, S., Ryu, E., Begeer, S., West, S.G. (2009). Looking again, and harder, for a link between low self-esteem and aggression. *Journal of Personality*, 77(2).

Diamantopoulou, S., Rydell, A-M., Henricsson, L. (2008). Can both low and high self-esteem be related to aggression in children? *Social Development*, 17(3).

Eromo, T.S.L. (2017). The rise and fall of self-esteem: A critical review, reconceptualization, and recommendations. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 77 (8-B) (E).

Ornstein, A. (1997). A Developmental Perspective on the Sense of Power, Self-Esteem and Destructive Aggression. *The Annual of Psychoanalysis*, 25.

Ostrowsky, M. K. (2010). Are violent people more likely to have low self-esteem or high self-esteem? *Aggression and Violent Behavior*, 15(1).

Schöne, C., Tandler, S.S., Stiensmeier-Pelster, J. (2015). Contingent self-esteem and vulnerability to depression: Academic contingent self-esteem predicts depressive symptoms in students. *Frontiers in Psychology*, 6.

Turner, K.A., White, B.A. (2015). Contingent on contingencies: Connections between anger rumination, self-esteem, and aggression. *Personality and Individual Differences*, 82.

Wood, A. M., Linley, P. A., Maltby, J., Baliousis, M., Joseph, S. (2008). The authentic personality: "A theoretical and empirical conceptualization, and the development of the Authenticity Scale". *Journal of Counseling Psychology* 55 (3).

Kohut and self-worth/aggression

Banai, E., Mikulincer, M., Shaver, P.R. (2005). 'Selfobject' Needs in Kohut's Self Psychology: Links with Attachment, Self-Cohesion, Affect Regulation, and Adjustment. *Psychoanalytic Psychology*, 22 (2).

Flanagan, L.M. (2016). The Theory of Self-psychology in Berzoff, J., Flanagan, L.M., Hertz, P. (Eds.). Inside out and outside in. (4th edition), Northvale, New Jersey: Jason Aronson.

Kottler, A. (2015). Feeling at home, belonging, and being human: Kohut, self psychology, twinship, and alienation. *International Journal of Psychoanalytic Self Psychology*, 10(4),

Themes

The search terms on PsycINFO and ERIC led to a cluster of literatures exploring the link between self-esteem and aggression, with reference to, rather than a focus on, self-worth. A lot of the research was valid, so my first theme is the link between self-worth and anger/aggression. The other search terms produced more specific results, so they were simply expanded or clarified to create the remaining theme titles: self-worth in the neurotypical population, and anger and emotion regulation in ASD and AS.

The link between self-worth and anger/aggression

In this section the controversial definition of self-esteem will be discussed, and how self-esteem relates to self-worth. Leary and Baumeister (2000), Banai, Mikulincer & Shaver (2005) and Kottler (2015) discuss the importance of belonging and its influence on self-esteem; Leary, Schreindorfer and Haupt (1995, p.297) and Ornstein (1997) consider the link between low self-esteem and aggression, which Baumeister, Bushman and Campbell (2000) refute. Diamantopoulou, Rydell and Henricsson (2008) and Ostrowsky (2010) consider the ambiguous nature of the relationship and Bushman, Baumeister, Thomaes, Ryu, Begeer and West (2009) revisit the link and conclude there is a positive correlation between low self-esteem and aggression if narcissism is a contributory factor. Besharat and Shahidi (2010) consider low self-worth and internalised anger and its relation to negative and positive perfectionism. Shanahan, Jones and Thomas-Peter (2011) suggest that unhealthy, as opposed to healthy, anger traits are used as protection against feelings of low self-worth, and Turner and White (2015) show that self-worth which was contingent on the approval of others was a predictor of aggression. Finally, Eromo (2017) demystifies the ambiguity of self-esteem and its relation to anger/aggression by sub-categorising self-esteem.

My theoretical starting point is Heinz Kohut, and his theory of self-psychology (1977, 1984). I have chosen Kohut because several studies within my first theme relate to his theories. Kohut controversially proposed that a person's psychological stability is reliant on three "self-states", including self-worth, which result from developing relationships with others. The relevance to my research of children developing relationships with others cannot be over-stated. This is in contrast to Freud, who believed that we are reliant on internal drives (Flanagan, 1996, p.166). Kottler (2015) discusses the importance of Kohut's twinship theory - the need to feel alike to another person - and of achieving a sense of belonging - through her own experiences of physical/geographical alienation and how it relates to psychological alienation in her own patients. Banai, Mikulincer & Shaver (2005) conduct a meta-analysis on seven studies on Kohut's work, focusing on the validity of Kohut's "selfobject" needs: mirroring, idealization and twinship, where children have a need to be immersed in and feel part of the competencies of others. In their conclusion they suggest that:

The hunger for mirroring and ... twinship are two forms of psychological insecurity that are associated with a sense of worthlessness, helplessness, and vulnerability and ... they can be viewed as risk factors for the development of emotional maladjustment and affective disorders. (Banai et al, 2005, p.251)

Worthlessness and vulnerability caused by a sense of not belonging or not being accepted by one's peers can create the negative psychological state of low self-esteem. Several studies suggest a link between self-esteem and aggression: Leary, Schreindorfer and Haupt (1995, p.297) state "Low self-esteem ranks amongst the strongest predictors of emotional and behavioural problems" and that it is associated with aggression as well as several other negative behaviours. Ornstein (1997), cites Kohut's self-psychology in a discussion of self-esteem and

destructive aggression throughout childhood, suggesting: “destructive aggression arises when, instead of affirmation and validation, the child's grandiosity is debunked; in place of pride and pleasure, there is shame and humiliation.” (Ornstein, p.145)

Baumeister, Bushman and Campbell (2000), however, in a review of contemporary study on self-esteem, dispute the link entirely:

At present, the evidence best fits the view that aggression is most likely when people with a narcissistically inflated view of their own personal superiority encounter someone who explicitly disputes that opinion... Threatened egotism, rather than low self-esteem, is the most explosive recipe for violence. (Baumeister et al, 2000, p.28-29)

One could suggest, though, that ‘narcissism’, ‘superiority’, ‘self’, and ‘ego’ are quite fluid terms; doesn’t “threatened egotism” equate to threatened self-worth? If someone’s “highly favourable view of self” is deflated then both their self-esteem and self-worth can be damaged, depending on their psychological fragility.

Indeed, Bushman, Baumeister, Thomaes, Ryu, Begeer and West (2009) revisit the link between low self-esteem and aggression, with Bushman and Baumeister reviewing their own experiments in a study of 280 (140/140 male/female) NT students. They conclude that there is indeed evidence for a link between low self-esteem and aggression, however, they qualify that there is evidence for the link when low self-esteem is found in combination with narcissism: narcissism & high self-esteem producing the highest levels of aggression. The work reinforced earlier studies by Kohut which concluded that there were different forms of narcissism: overt and covert which have low- and high effect on aggression, respectively. I mention studies relating to narcissism briefly as personality disorders are beyond the scope of this review but narcissism as a self-obsessive tendency in children is relevant and the link between emotional rejection and low self-esteem is of interest to my proposal. On this note, Zeigler-Hill and Besser (2013) investigated the link between self-reported self-esteem and self-reported narcissistic tendencies relating to self-worth (N=372, adults) and recorded that low levels of self-esteem were reported when the subjects had felt rejection or had been in a conflict with others.

With reference to rejection, Leary and Baumeister (2000) discuss self-esteem in relation to Leary’s 1999 “sociometer theory” which defines self-esteem as “a psychological gauge of the degree to which people perceive that they are relationally valued and socially accepted by other people” (Leary, 2012, p.141). Leary and Baumeister reference the link in several studies between self-esteem; one’s sense of “belongingness” and the acceptance that one’s world view is valid. Self-esteem, they suggest, is also contingent upon one successfully meeting the requirements of one’s world view, thus linking with the ASD trait of perfectionism.

Other papers have focused on the ambiguity shown in studies of the causal effect of low self-worth and/or low self-esteem on aggression, indeed, Diamantopoulou, Rydell and Henricsson (2008), ask, in their self-explanatory study title: “Can both low and high self-esteem be related to aggression in children?”. 652 12-year-old Swedish children were asked to self-report their self-worth in terms of social acceptance whilst their peers evaluated the individuals’ social status from their own perspective. This led to the notion of having ‘exaggerated but disputed self-esteem’ (Diamantopolou et al, p.682). Both self-reported low self-worth and exaggerated/disputed high self-esteem were linked to aggression, leading to the authors stating: “depending on how self-esteem is conceptualized, aggressive children may appear to have both a low and a high self-esteem” (p.682).

In a literature review on aggression and violent behaviour, Ostrowsky (2010) concluded that there was evidence for and against a link between low self-esteem and aggression and that, again, narcissism was a factor. Besharat and Shahidi (2010) considered the effect of low self-worth and the resultant anger response when it is turned in - on the subject - rather than externalised. Their focus was perfectionism which they sub-categorised into positive and negative. Positive perfectionism is seen as healthy and has good outcomes whereas negative perfectionism has been linked to neuroses and poor psychological health including depression. Whereas positive perfectionism allows for pleasure to be derived from striving for success, negative perfectionism correlates with unrealistic expectations and self-recrimination for failure. In this study of 384 Iranian students, Besharat and Shahidi found that anger and anger rumination were high in individuals who report negative perfectionism and that their (low) self-worth was dependent on unachievable goals, thus making them vulnerable and prone to anger. Anger rumination is a behavioural trait common in ASD: dwelling on the 'wrongs' done to them by others even though the moment and the immediate 'retribution' has long passed. Like negative perfectionism, and, one could argue, quite closely linked to it; it is not a healthy psychological trait. Following this review of literature, I would suggest the link between self-worth, perfectionism and depression in the ASD population will be worth exploring in further research.

Self-worth as a causal link to anger in a neurodiverse population was studied by Shanahan, Jones and Thomas-Peter (2011). Much as narcissism was sub-categorized, the term anger was sub-divided into "healthy" and "unhealthy" by Shanahan et al in this small, male prison population (N=44, equally divided) where the study focused on violent "anger disordered" individuals when compared to violent individuals with typical anger attributes. Their conclusion was that unhealthy anger "may serve as an attempt to protect against shame and low self-worth." This is reinforced by a much larger study by Turner and White (2015), investigating if the contingency of external factors on perceived self-worth, which they equate to contingent self-esteem, would predict aggression in a population of 729 students. The study showed that self-worth which is dependent on the approval of others, interacts with anger rumination and predicts aggression. Similarly, McCormick and Turner (2015) demonstrated a close correlation for the relationship between the psychological control of a child by its parent and low authenticity ("living in accordance with one's values and beliefs" (Wood, Linley, Maltby, Baliousis and Joseph, (2008). p.386) which in turn correlates with higher contingent self-worth which itself correlates with internalized aggression.

Referencing the most up to date research in this review, the discrepancy in findings about the relationship between low self-esteem/self-worth and aggression can possibly be explained by the sub-categorizing of the broad term "self-esteem" as described by Eromo in 2017. She discusses the 2003 literature review of the effects of self-esteem on social behavior and concurred with Baumeister et al (2000) stating it showed "that (self-esteem) is actually not a major predictor of almost anything" (Eromo, xvii) and reports on her updated study using "specific critical thinking principles" to suggest a new theoretical model for self-esteem. In her definition, self-worth is the "emotional component", with the other component being "cognitive", which she labels "self-efficacy". With so many variables influencing one's self-esteem, Eromo's study concluded that there are eight types, based on self-appraisal:

Table 2
Eromo's self-esteem sub-categories

Self-esteem type	Definition by self-appraisal: sub-categories
Optimal high	Accurate / positive / stable
Fragile high	Accurate / positive / unstable
Accurate low	Accurate / negative / stable
Fragile low	Accurate / negative / unstable
Non-compensatory narcissism	Distorted / inflated / stable
Compensatory narcissism	Distorted / inflated / unstable

Consider a subject with “fragile high” self-esteem, whose strong self-belief is conditional on their psychological needs being met, and who does not have the coping mechanisms of a person with “optimal high” self-esteem to maintain psychological control when a crisis is encountered. Their personality traits would show a strong correlation between, e.g., high self-esteem and low anger-control. With the undifferentiated label “high self-esteem”, this would lead to erroneous conclusions. With sub-categorization, Eromo has possibly explained why there is so much discrepancy in the research and her conclusion ties in well with Baumeister et al's revisiting of the link between self-esteem and aggression.

This section has discussed the complexities of defining self-esteem and therefore also its previously ambiguous relationship with anger/aggression. With sub-categories of self-esteem accurately defined, this relationship is more readily acknowledged. To further evaluate my research proposal's validity, the role of self-worth, as the emotional component of self-esteem, will now be discussed.

Self-worth in the general population – implications for well-being

Studies into self-worth in the general population have posed questions concerning its significance and effect on human well-being. In this chapter I will consider the evidence for the psychological value of self-worth.

Fan and Chen (2002) and Leite and Kuiper (2010) show a link between high self-worth and low incidents of depression/anxiety, and Grills and Ollendick (2002) demonstrate a link between victimization and low self-worth, also showing a disparity in female/male results related to lower emotional intelligence in boys. Schöne, Tandler and Stiensmeier-Pelster (2015) show another gender bias in the link between contingent academic self-esteem (aCSE) and depression.

Leite and Kuiper (2010) used the self-schema model for self-worth evaluation and its correlation with depression and self-esteem in a group of 137 University students. They were able to show a strong link between positive self-worth reporting and higher recorded self-esteem levels and less depression. Also, interestingly in relation to Kohut, perceived independence and a sense of control over the respondent's environment were better predictors of high self-esteem than positive reporting on relationships with others. With relevance to developing a method of improving self-worth to possibly reduce aggressive tendency in the ASD population, it is also interesting that the study concluded that the self-schema model was a significantly better predictor of well-being than the model it was compared to: Crocker's self-worth contingency model. Positively evaluating what one “has” in terms of self-selected criteria for psychological well-being seems to have more impact on one's psychological state than focusing on identifying what one needs, to achieve well-being.

Defining self-worth as the emotional component of self-esteem is also valuable. Grills and Ollendick (2002) reported on the effects of global self-worth on the relationship between peer victimization and anxiety in 279 11-13-year-old girls and boys in Virginia, US. In the girls' population, victimization negatively affected their view of themselves which tied in with their reported increased anxiety. In the boys' population, however, global self-worth moderated the relation between peer victimization and anxiety; higher self-worth in boys correlated with lower anxiety, possibly due to them being less likely to internalize the negative views of others, compared to girls. A study of 41 women and 37 men by Robinson (2008) showed that a focus on rejection cues, compared to interpersonal cues, in their relationships over three days resulted in "decreased state self-esteem and increased feelings of hurt and anger" (Robinson, iv) with no differentiation between sexes. The difference in the two studies could relate to the disparity in levels of emotional or social intelligence in the different sexes in childhood, resulting in boys being protected by a lack of awareness of how psychologically damaging victimization (Grills and Ollendick) is intended to be by the perpetrators, a disparity which slowly disappears with maturity.

A Chinese study reinforced the suggested value of self-worth in terms of general psychological well-being. Fan and Chen (2002) created assessment tools: The Sense of Self-Worth Scale (SSWS) and the Mental Health Diagnostic Scale (MHDS), to compare the mental health of 132 students with high self-worth scores and 129 students with low self-worth scores. The results showed a correlation between high self-worth scores and low anxiety / good mental health. With relevance to my suggested hypothesis, there was also a negative correlation between students with "autistic tendency" and mental health.

Contingent self-esteem has also been linked to mental health. Schöne, Tandler and Stiensmeier-Pelster (2015) measured the correlation between academic contingent self-esteem (aCSE) and depression in 1888 10-16-year-old German students. The results showed another gender bias: girls after 10-11 years old showed higher aCSE and depressive symptoms and lower self-esteem; boys demonstrated a reduction in aCSE and depressive symptoms and an increase in self-esteem as they mature, whereas girls remain generally stable in all criteria. Contingent self-esteem (academic) was a better predictor of depressive symptoms than perceived self-esteem level and there was a strong correlation between high academic stress and increased depressive symptoms in students with high aCSE.

In relation to my hypothesis, it can be suggested that social inclusion could be as significant a contingency for self-worth in children with ASD as academic success in Schöne et al.'s study.

Anger and aggression / emotion regulation in ASD

In the ASD population, where emotional interaction is often dysfunctional, poor anger control is a commonly reported issue. I will now consider the prevalence of anger in the ASD population and possible interventions such as Aggression Replacement Therapy (ART), Emotion Regulation (ER) and Cognitive Behavioural Therapy (CBT).

In a study by Quek, Sofronoff, Sheffield, White and Kelly (2012) 41% of a small group (N=62) reported significant levels of anger, anxiety and/or depression with depression being the only variable which could predict anger. Hayman (2016) considered the effect of Aggression Replacement Training in reducing aggressive behaviour in a small population of children with ASD. ART is focused on anger and stress management and self-control and was proven to be

effective in reducing incidents of physical and verbal aggression in this group. Maintaining self-control as a contributory factor to effective anger management is of particular interest in relation to the hypothesis proposed here.

Ambler (2015) focused on social anxiety in an ASD population in a mainstream high school, and its role as moderator for aggression: “For ASD students, but not for the control students, there was a strong, positive relationship: higher levels of anxiety were associated with higher levels of physical aggression. However, ASD students with high anger control did not display physical aggression”. (Ambler, p.97). Physical aggression was also seen to increase with level of social anxiety. Also, relevant here, Rieffe, Camodeca, Pouw, Lange and Stockmann (2012) considered the moral dynamic of shame and guilt in the likelihood of bullying and victimization in a study of 130 Dutch school children (64, ASD; 66, NT). They found that ASD children and NT children with low self-reported guilt responses, were more likely to engage in bullying than those with higher reported guilt responses, whereas ASD children, with typically poor anger control, were “strongly and uniquely associated with more victimization” (Rieffe et al, p.351). These studies reinforce the validity of continuing research into finding a therapeutic method to mediate between anger arousal and anger diffusion in ASD.

Samson, Wells, Phillips, Hardan and Gross (2015) focused on the practicalities of therapies and examined the efficacy of 10 emotion regulation (ER) strategies (problem solving, seeking support, cognitive reappraisal, distraction, acceptance, relaxation, exercise, avoidance, suppression and repetitive behaviours) available to parents of ASD children. The children were assessed in three categories: anger, anxiety and amusement. It was noted that children in the ASD population, as seen in other studies, reported higher anger and anxiety, and, predictably, less amusement than the non-ASD population. They also did not effectively use adaptive ER strategies and made more use of maladaptive strategies, thus repeating the same behaviours which led to their (persistent) negative psychological states.

Scarpa and Reyes (2011) also focused on a practical therapeutic approach, providing Cognitive Behavioural Therapy, in the form of “skill-building via affective education, stress management, and understanding expressions of emotions” (Scarpa and Reyes, p.497). The study was on a population of 11 children, but the outcome was overwhelmingly positive with Scarpa and Reyes reporting better emotion regulation and an increase in the children’s ability to deal with anger and anxiety.

With anger/aggression being prevalent in the ASD population and self-esteem/self-worth being integrally linked to anger/aggression and psychological well-being, this review has shown the relevance of my proposed continued research and of developing a programme of therapeutic intervention, based on self-worth, for ASD children with anger management control issues.

Conclusion

This literature review details the correlation between low self-worth and/or self-esteem and anger/aggression in the neurotypical population and in the ASD population. There is also evidence of the link between social anxiety and anger/aggression in the ASD population. Though there has been conflicting evidence about the former, by sub-categorizing self-esteem, that which could be identified as high self-esteem can in fact be categorised as a fragile state where the subject is prone to anger responses.

Kohut's self-psychology models have been very useful in pin-pointing the psychological basis of the importance of self-worth, i.e. self-worth which is contingent on relationships with others. Children with ASD can have poor social skills stemming from low emotional intelligence so they are inherently disadvantaged when it comes to forming relationships with others. My proposed study is focused on the benefits of children with ASD improving these relationships to then improve their self-worth.

In self-worth in the general population, I referenced Leite and Kuiper's (2010) study, which discussed the value of a subject assessing what s/he 'has' rather than what s/he 'needs' as it relates to psychological well-being. It also links directly to the suggested value of improving self-worth in ASD. In the ASD population, this links to Besharat and Shahidi's (2010) study of perfectionism. An ASD child, due to obsessional tendencies, and the 'rules' they would like others to abide by, would probably have the trait of negative perfectionism. In very simplistic terms: they want what they want. Improving their self-worth could come in part from training them to accept less so that they are not constantly disappointed by people and do not feel that they have been rejected. It could be an aim of the intervention to retrain ASD children to accept that what they 'have' should be more important to them, e.g. having a friend who accepts that the ASD child has high expectations but that they, the friend, won't always be able to meet them, compared to the ASD child wanting (but lacking) a friend who will always meet their needs.

In self-worth in the general population, I also referenced Grills and Ollendick (2002), who showed a positive side-effect of low emotional intelligence in adolescent boys, in that it allows them to be buffered from emotional trauma. The most up to date and thorough meta-analysis of studies in self-esteem (Eromo (2017)) defines self-worth as the emotional component of self-esteem so it is valid to propose that finding a therapeutic pathway to improve self-worth would have a positive influence on the emotional response to adversity and thus reduce resultant anger/aggression associated with low self-esteem. A side-effect of this study may be that after a successful intervention, the subjects may require some emotional safeguarding as they become more emotionally mature and so more emotionally vulnerable.

As referenced in the main body, a limitation of this review is that it has not uncovered any specific study on the effect of improving self-worth on anger control in ASD children, but that suggests a gap in the research. I therefore propose a further study, of methods to increase self-worth in ASD children and to implement selected methods in my school on a small ASD population. I will measure anger levels in the boys and then compare them with levels recorded after the intervention. I will then implement a larger scale study, hopefully leading to a vital intervention for ASD children to improve their quality of life.

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